

MAIL AI

FINAL

PRESNTAION

TEAM E Yosep Kim,
Dohyeon Bu
Sommin Lim
Miseo Jeong

Capstone Design Project
December 8, 2023.



Agenda



1

Introduction

Motivation
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Role of each member

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Implementation

Authentication
Mail Generation
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4

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5

ML/DL

Summary Model
Keyword Extraction Model

6

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Challenges
Limitation
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Introduction

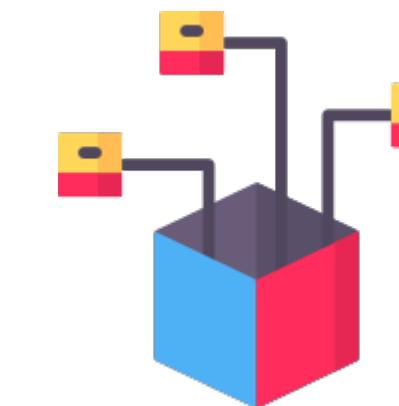
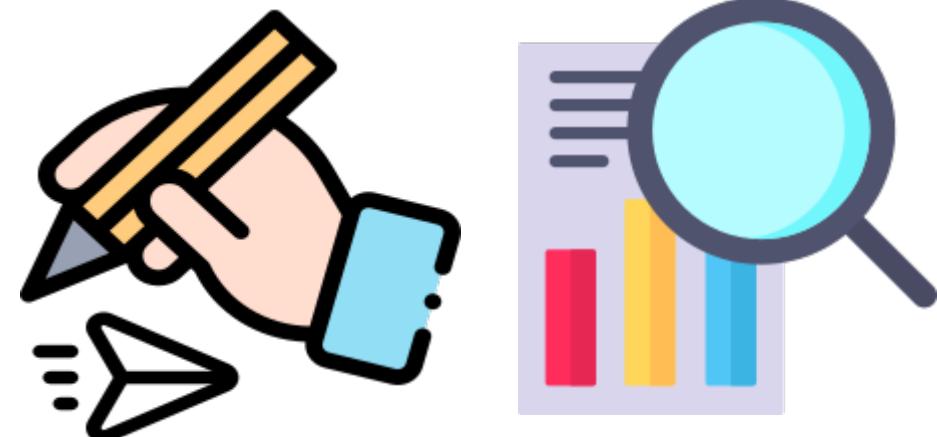
Motivation



Introduction

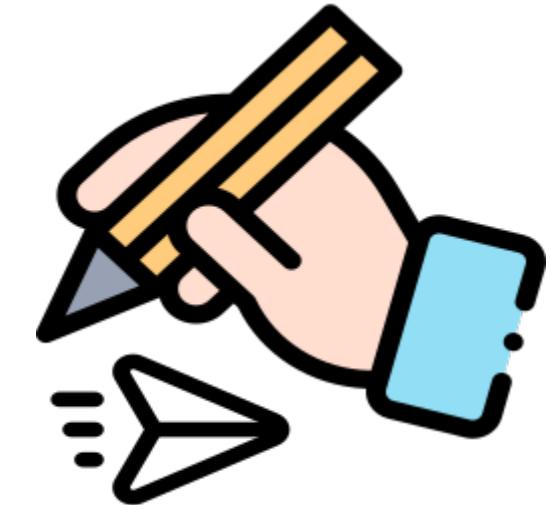
Objective

Objective



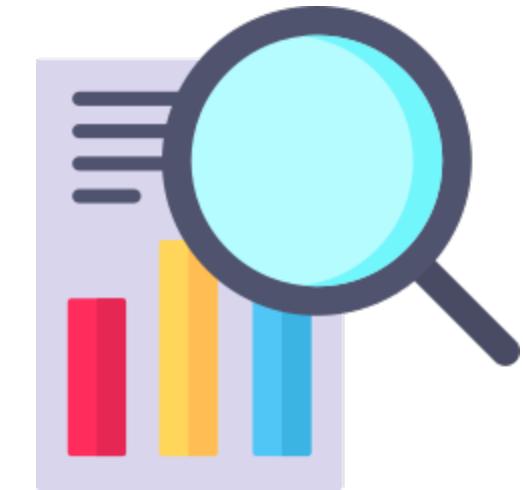
Mail Generation

Email Generation using OpenAI RESTful API
Email Sending using SMTP



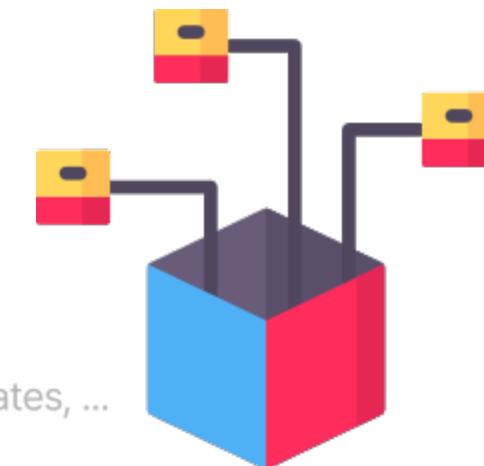
Mail Analysis

Fetch using IMAP and store it MariaDB
Summary
Keyword Extraction
Translation



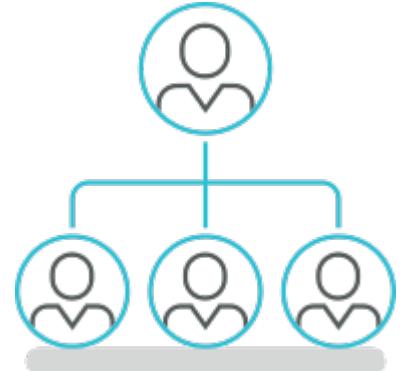
Production

Security: Authentication, CSRF, Encryption, TLS
Robust Database: MariaDB
Cloud Native: Containerized Database, Proxyserver, Certificates, ...



Project Progress

Team Role



01 Project Manager

Yosep Kim



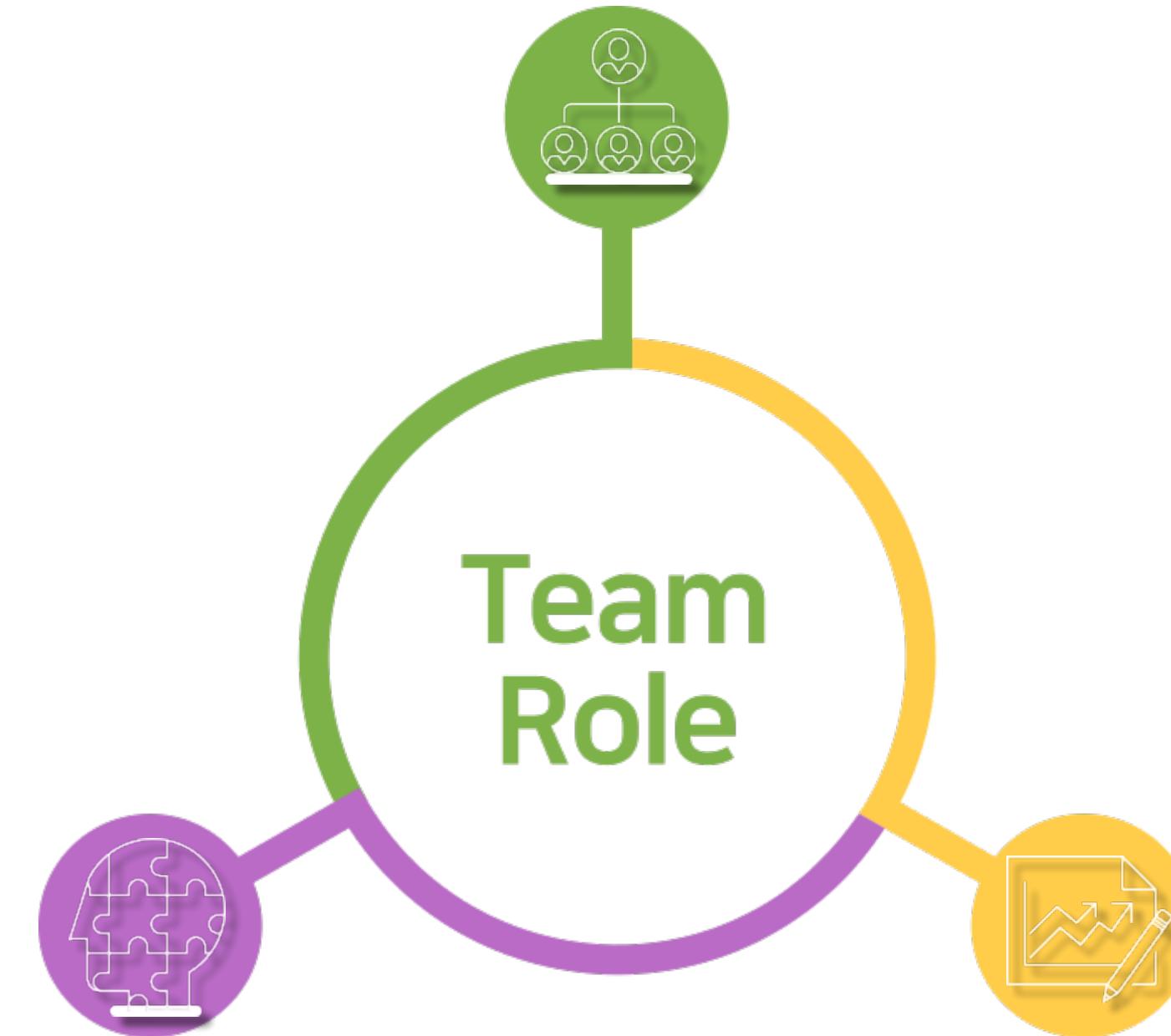
02 Backend

Yosep Kim
Dohyeon Bu



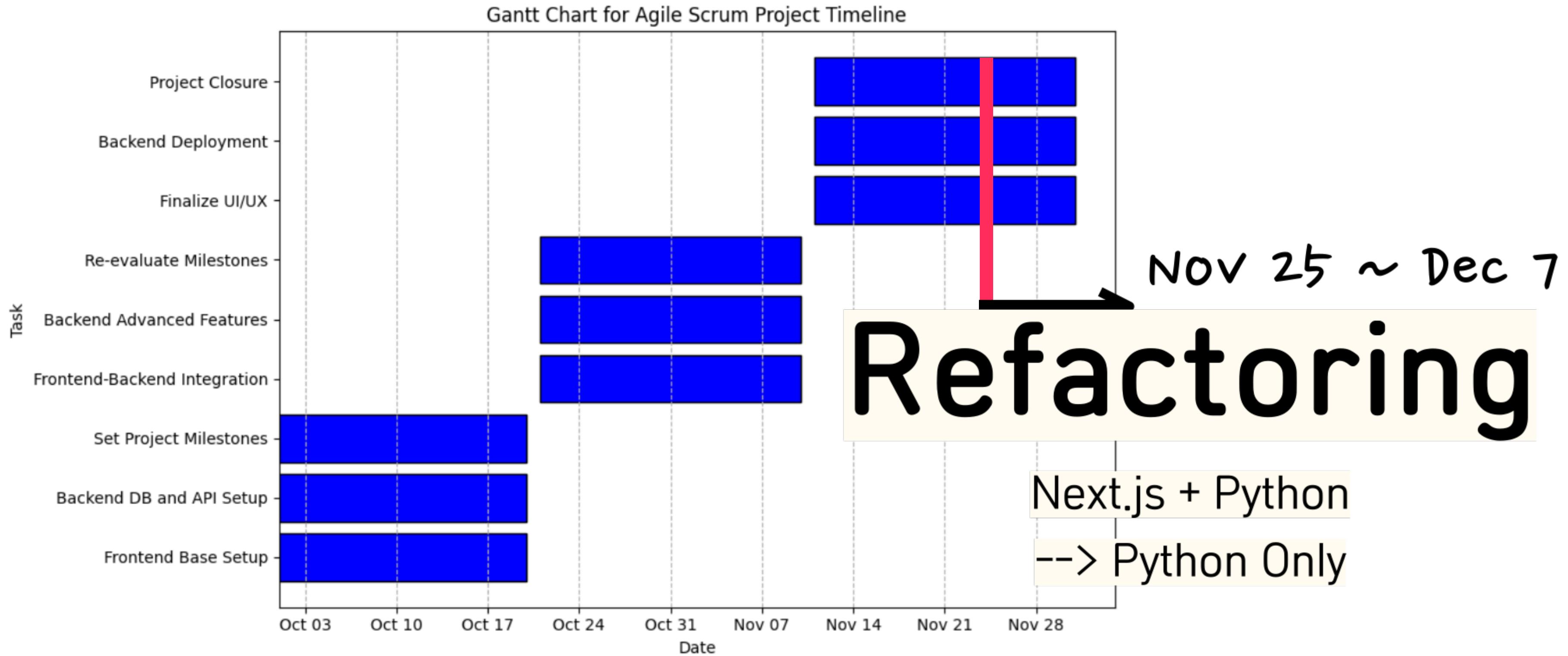
03 Frontend

Yosep Kim
Sumin Lim
Miseo Jeong



Project Progress

Schedule





Implementation

Implementation



Authentication

Database & Encryption

Login/Logout/Signup/Withdrawal
Password Encryption/Decryption
Personal Mailbox Isolation



Generation

REST API & SMTP

Generate Mail: OpenAI
Send Mail: SMTP



Analysis

NLP & IMAP

Keyword: all-mppnet-base-v2
Summary: facebook/bart-large-cnn
Translation: Google



Implementation

Implementation



Authentication

Database & Encryption

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Generation

REST API & SMTP

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Analysis

NLP & IMAP

Keyword: all-mppnet-base-v2
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Implementation

Authentication

Before Login



Mail AI



© 2023 MailAI: GitHub

<https://mailai.intueri.ai/#mainCarousel>

After Login



Mail AI

AI-powered Mail Manager



Hello, Yosep Kim!

Generate	Analyze
Fetch	Logout

© 2023 MailAI: GitHub

<https://mailai.intueri.ai/#mainCarousel>

Implementation

Authentication

Login Page

The screenshot shows the MailAI Login page. It features a central 'Login' form with two input fields: 'Username:' containing 'test' and 'Password:' containing several dots. Below the fields is a blue 'Login' button with a key icon. At the bottom of the form, there's a link 'Don't have an account? Create one!'. The page has a header with 'Mail AI' and navigation links for Home, Login, Signup, and README.

Signup Page

The screenshot shows the MailAI Signup page. It features a central 'Signup' form with seven input fields: 'Username' (with a note: 'Required. 150 characters or fewer. Letters, digits and @/./+/-/_ only.'), 'First name' (with a note: 'Required.'), 'Last name' (with a note: 'Required.'), 'Email', 'Password', 'Password confirmation', and 'Smtp password'. Below the fields is a blue 'Signup' button with a smiley face icon. At the bottom of the form, there's a link 'Already have an account? Login'. The page has a header with 'Mail AI' and navigation links for Home, Login, Signup, and README.

Implementation

Authentication

Withdrawal Page

The screenshot shows a browser window titled "MailAI: AI-Powered Mail Manager - Chromium". The address bar displays the URL "mailai.intueri.ai/auth/delete_account/". The main content area features a modal dialog with a white background and a black border. The dialog is titled "Delete Account". Inside, there is a message: "Are you sure you want to delete your account? This action cannot be undone." Below this is a label "Confirm Password:" followed by a text input field containing several dots. At the bottom of the dialog are two buttons: a red button labeled "Delete my account" with a sad face icon, and a grey "Cancel" button.

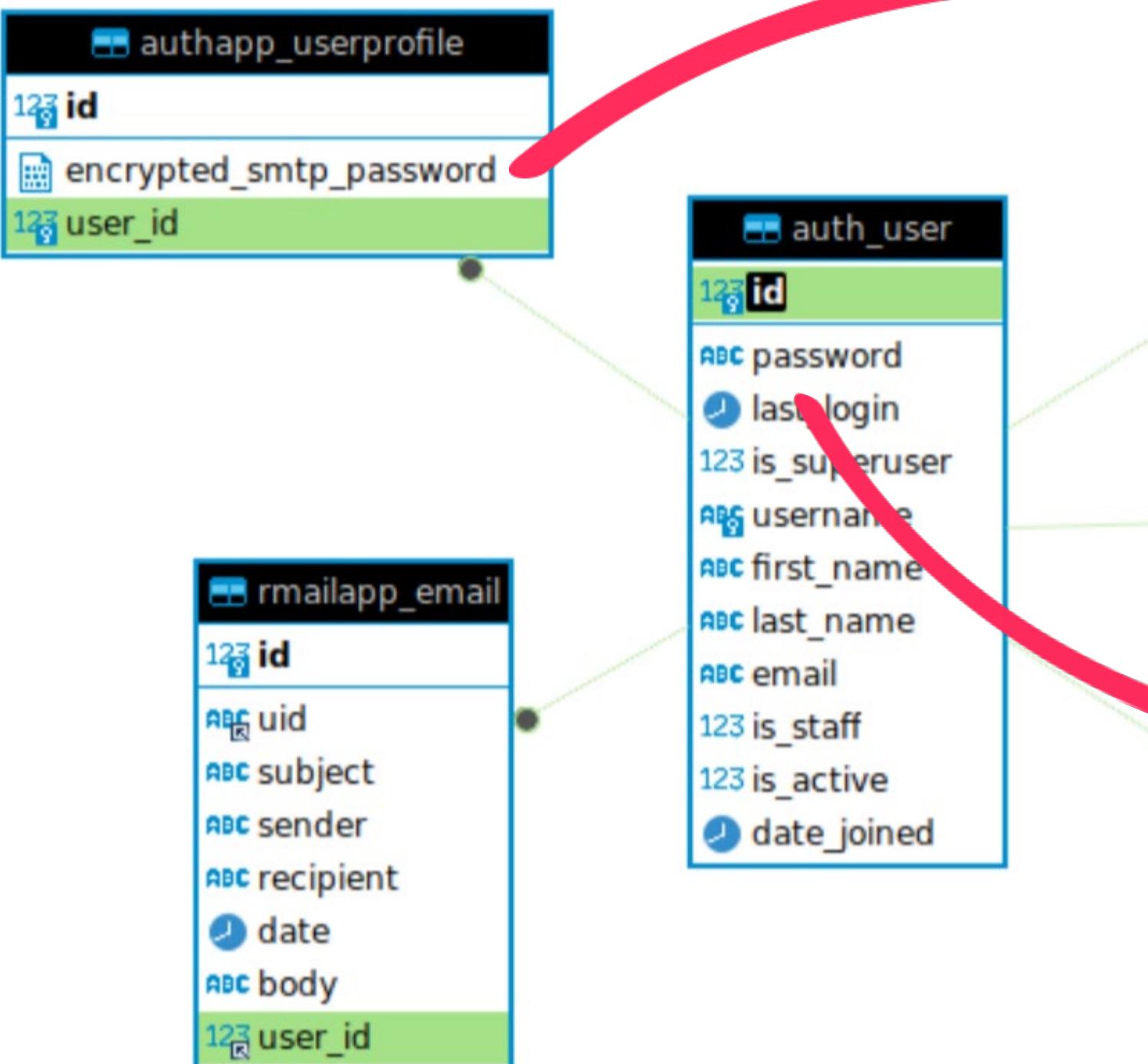
Confirmation Form

The screenshot shows a browser window with a title bar that is mostly obscured. The main content area features a modal dialog with a white background and a black border. The dialog is titled "Delete Account". Inside, there is a message: "Are you sure you want to delete your account? This action cannot be undone." Below this is a label "Confirm Password:" followed by a text input field containing several dots. At the bottom of the dialog are two buttons: a red button labeled "Delete my account" with a sad face icon, and a grey "Cancel" button.

Implementation

Authentication

User Auth ERD



3rd Party Auth Fernet (symmetric encryption)

Native Auth PBKDF2 (SHA256 hash)

Properties Data 엔티티 관계도

auth_user Enter a SQL expression to filter results (use Ctrl+Space)

id	password	last_login	is_sup
1	pbkdf2_sha256\$600000\$25Mg1hDg	2023-12-07 07:25:54.642693	
2	pbkdf2_sha256\$600000\$5pFw5CQt	2023-12-07 11:53:22.271609	
3	pbkdf2_sha256\$600000\$VCzzMO6h	2023-11-30 15:03:55.959232	
4	pbkdf2_sha256\$600000\$TfhK5TDEL	2023-11-29 11:23:45.444902	
5	pbkdf2_sha256\$600000\$zP1KxILpIE	2023-11-30 12:55:44.240226	
6	pbkdf2_sha256\$600000\$mFK6KQ3V	2023-12-02 03:37:51.961503	



Implementation

Implementation



Authentication

Database & Encryption

Login/Logout/Signup/Withdrawal
Password Encryption/Decryption
Personal Mailbox Isolation

Mail AI



Generation

REST API & SMTP

Generate Mail: OpenAI
Send Mail: SMTP



Analysis

NLP & IMAP

Keyword: all-mppnet-base-v2
Summary: facebook/bart-large-cnn
Translation: Google

*페이지 내 인물 사진은 샘플 이미지입니다.

Implementation

Generation

Mail AI

Generate Mail

Name

Enter the recipient's name. (e.g. Yosep Kim)

Relation

Describe your relationship with the recipient. (e.g. CEO)

Style

Choose the tone of the email. (e.g. formal)

Text

100 kg of cobalt was dispatched at 7 am today.

Expected to arrive at Seoul Station on December 9, 2023.

Enter the main content of the mail. (e.g. Give me money.)

Generate Mail

Mail Generation

Generate Mail Automatically

The Mail Generation interface consists of three main sections:

- Mail AI**: The main title and logo.
- Generate Mail**: A large blue button.
- Input Fields**: Fields for Name (Alice Kim), Relation (Customer), Style (Professional), and Text (100 kg of cobalt was dispatched at 7 am today. Expected to arrive at Seoul Station on December 9, 2023.).
- Process Step**: A progress bar with the text "Please wait...".
- Final Output**: The generated mail content: 100 kg of cobalt was dispatched at 7 am today. Expected to arrive at Seoul Station on December 9, 2023.

Implementation

Generation

Preview and Send Your Email

Recipient

mai477113@gmail.com

recipient@example.com

Subject

Dispatch Notification: 100 kg Cobalt Shipment En Route to Seoul St:

Auto Generated. You can edit it before sending

Message

Dear Alice,

I hope this email finds you well. As your dedicated customer, I wanted to inform you that we have dispatched 100 kg of cobalt this morning at 7 am.

The shipment is expected to arrive at Seoul Station on December 9, 2023. We have taken all necessary measures to ensure a smooth and timely delivery.

If you have any questions or require further information, please feel free to reach out to me.

Thank you for your continued support.

Best regards,

Alice Kim

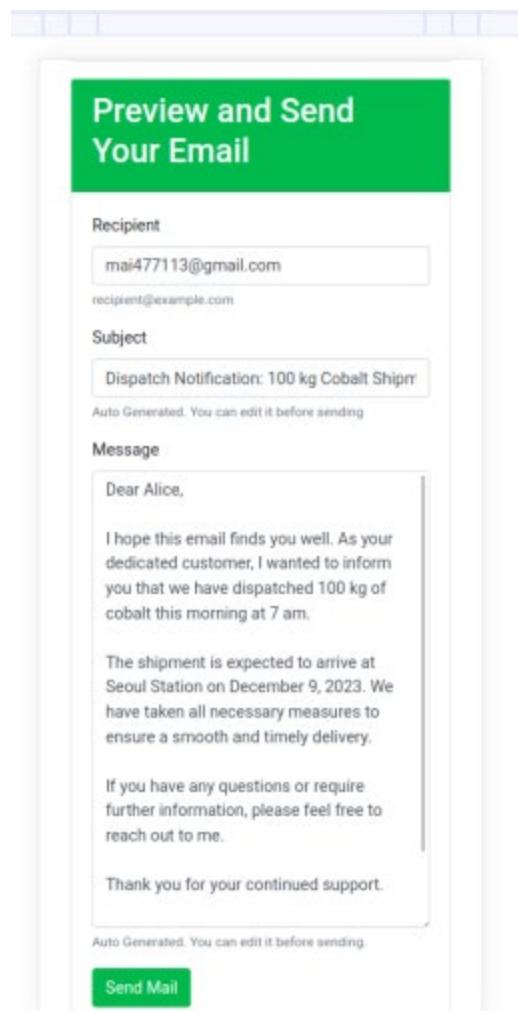
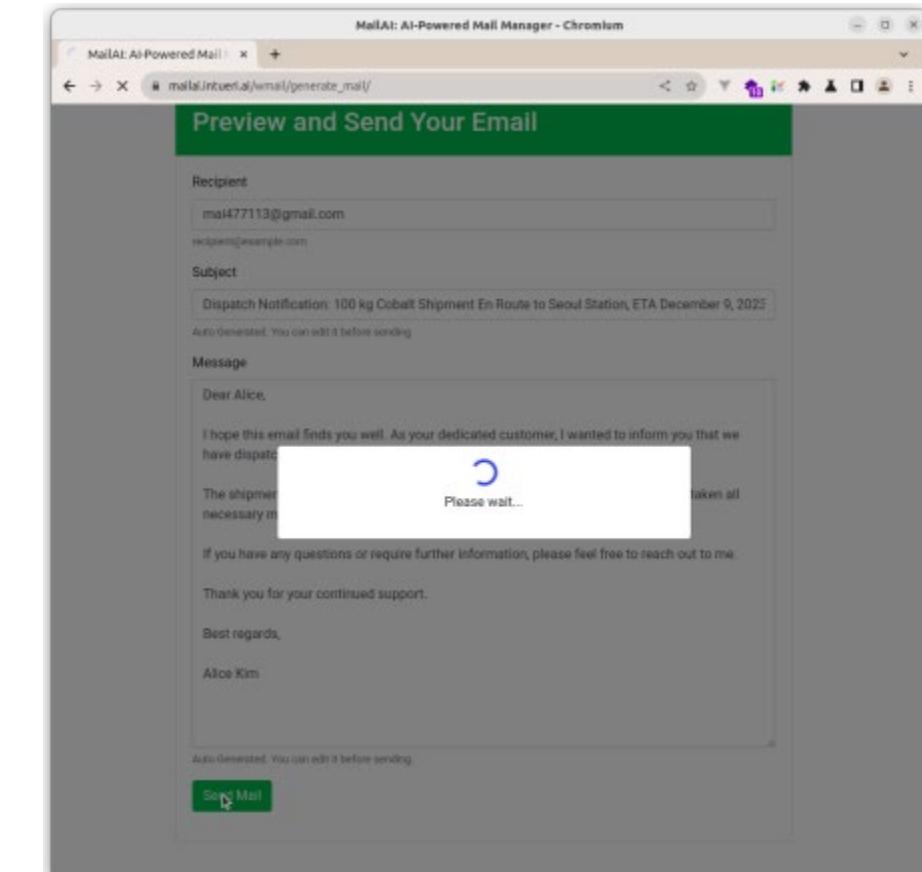
Auto Generated. You can edit it before sending.

Send Mail

Mail Sending

Send Mail Using SMTP

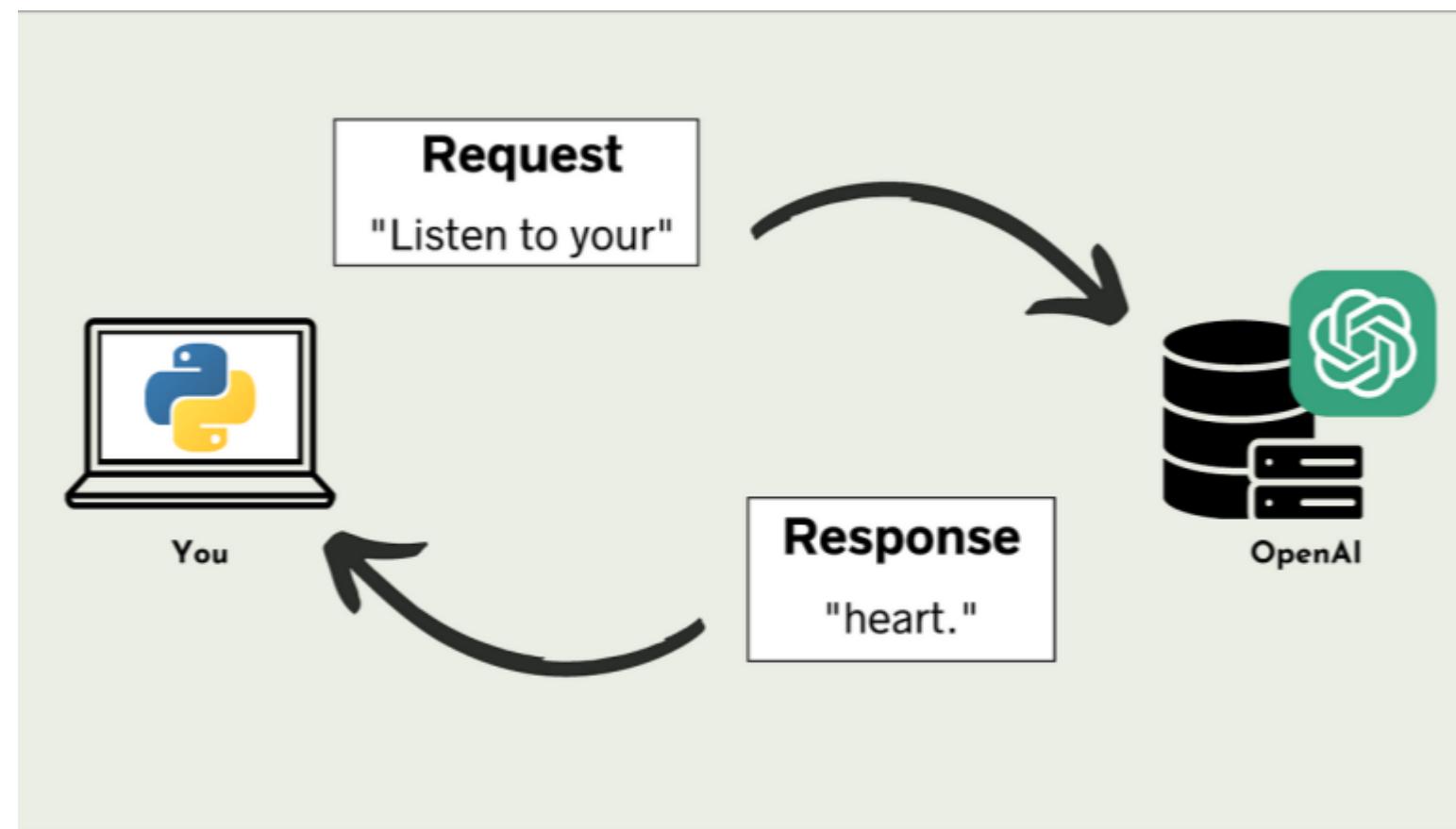
You can modify it before sending



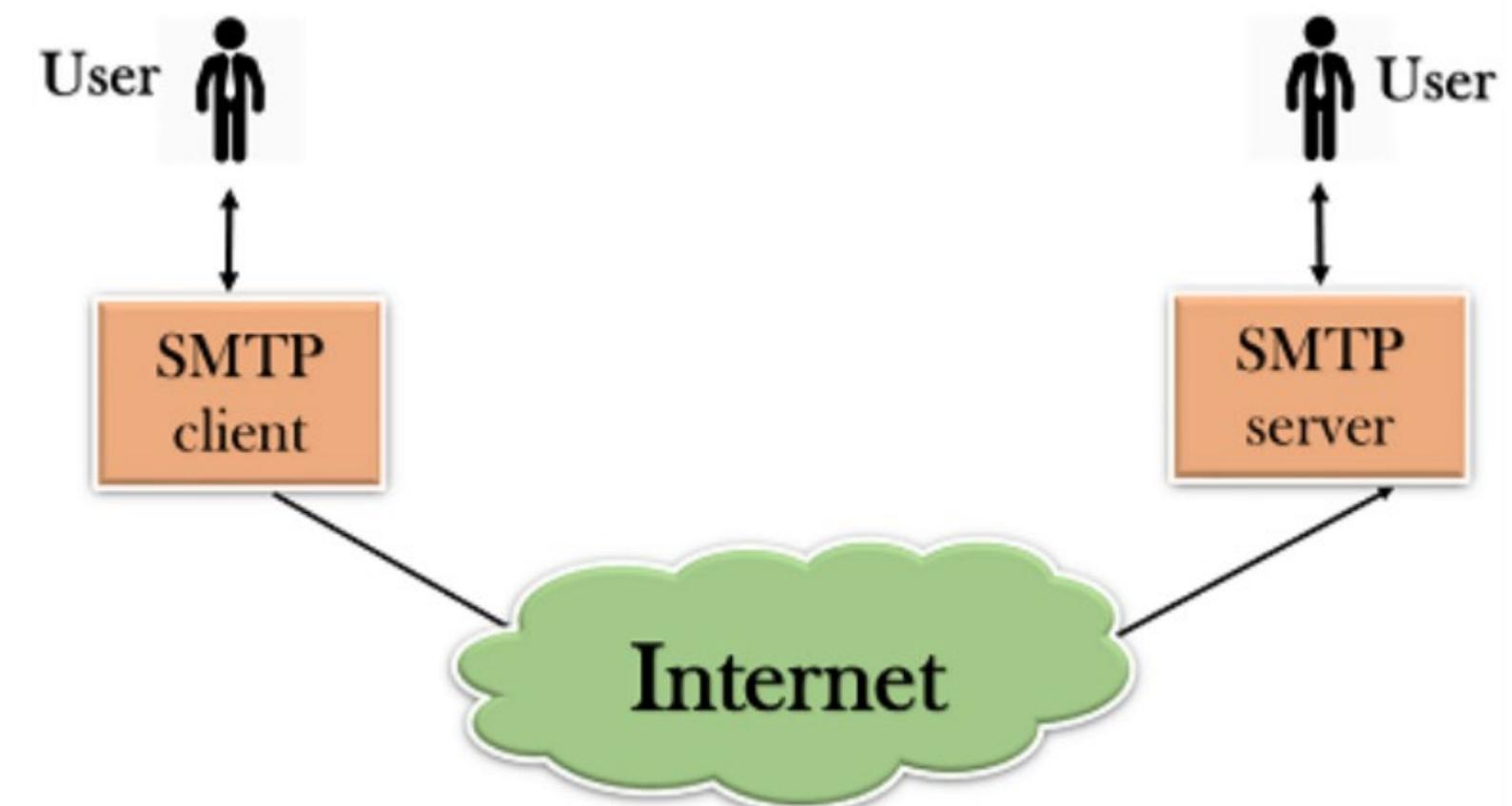
Implementation

Generation

Mail AI Native Request API



Mail AI Native SMTP API





Implementation

Implementation



Authentication

Database & Encryption

Login/Logout/Signup/Withdrawal
Password Encryption/Decryption
Personal Mailbox Isolation

Mail AI



Generation

REST API & SMTP

Generate Mail: OpenAI
Send Mail: SMTP



Analysis

NLP & IMAP

Keyword: all-mptnet-base-v2
Summary: facebook/bart-large-cnn
Translation: Google

*페이지 내 인물 사진은 샘플 이미지입니다.

Implementation

Analysis

Mail List Page

The screenshot shows a web application interface for managing emails. At the top, there's a navigation bar with links for Home, Generate, Analyze, Fetch, Logout, Withdrawal, and README. Below the navigation, there's a dropdown menu for 'Emails per page' set to 10. The main area displays four email entries:

- [SK] Job Offer Letter**
From: tofu7679@g.skku.edu
Date: Dec. 7, 2023, 12:26 p.m.
- 후속 논의 관련 이메일**
From: imsumin683@gmail.com
Date: Dec. 7, 2023, 11:54 a.m.
- Dispatch Notification: 100 kg Cobalt Shipment En Route to Seoul Station, ETA December 9, 2023**
From: mai477113@gmail.com
Date: Dec. 7, 2023, 11:51 a.m.
- Follow-up on Our Recent Discussion**
From: imsumin683@gmail.com
Date: Dec. 7, 2023, 11:47 a.m.

Mail AI Native IMAP API



	rmailapp_email	auth_user
123	id	id
abc	password	password
	last_login	last_login
123	is_superuser	is_superuser
abc	username	username
	first_name	first_name
abc	last_name	last_name
	email	email
123	staff	staff
123	active	active
	user_id	user_id

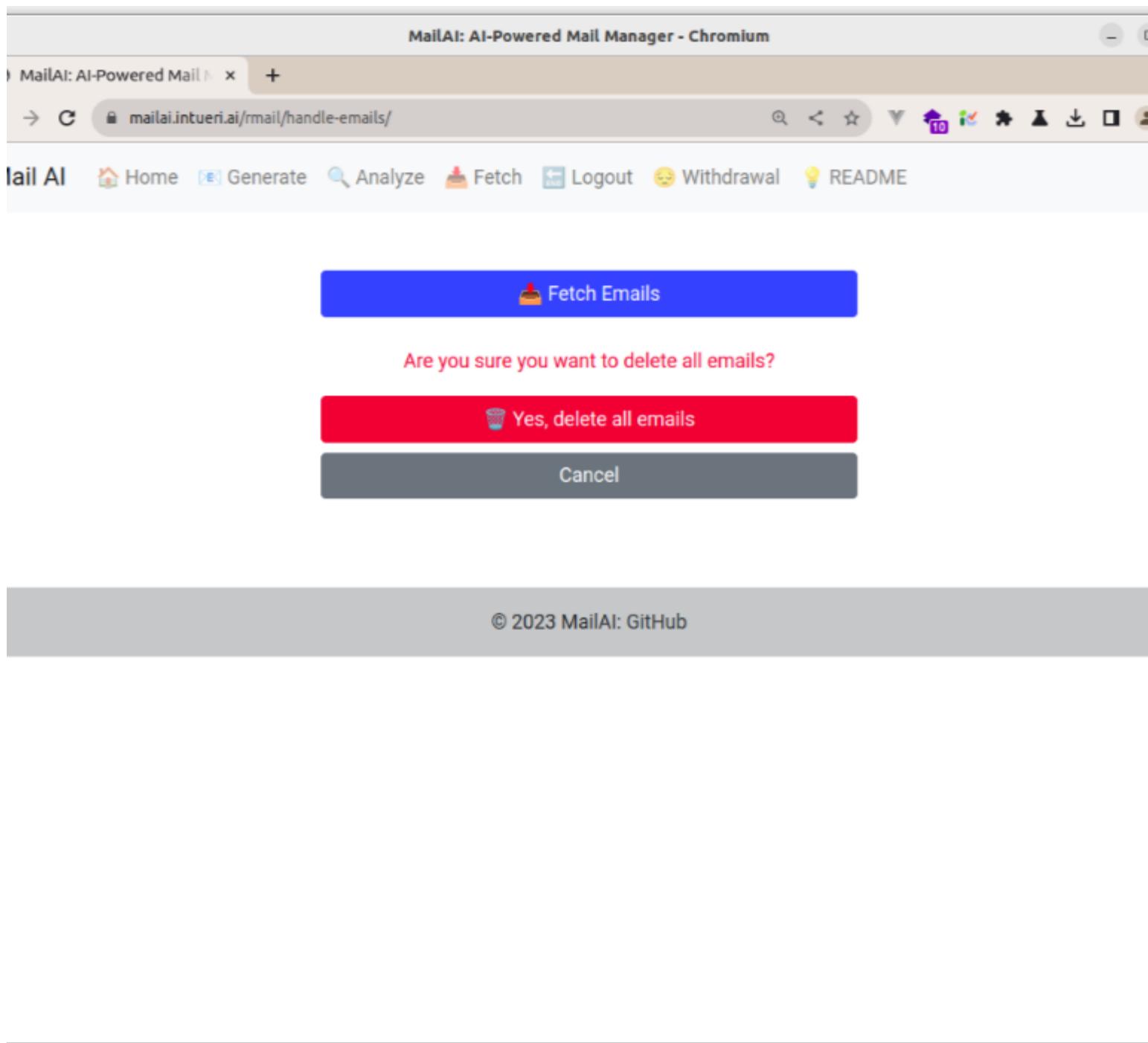
Mail Fetch Page

The screenshot shows a confirmation dialog box with a blue header bar containing the text 'Fetch Emails'. The main body of the dialog asks 'Are you sure you want to delete all emails?'. There are two buttons at the bottom: a red button labeled 'Yes, delete all emails' and a grey button labeled 'Cancel'.

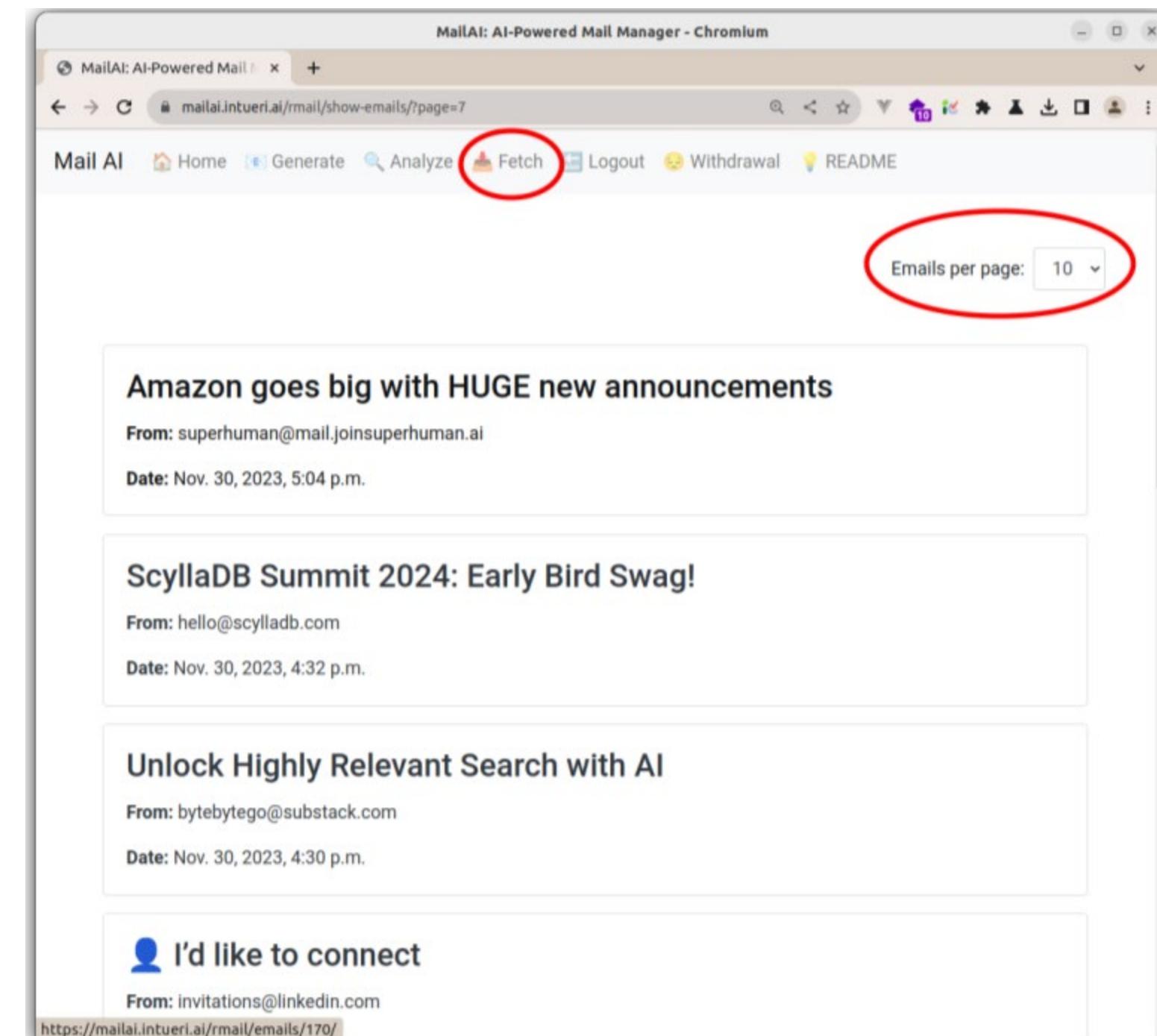
Implementation

Analysis

Fetch Page



Email List Page



Implementation

Analysis

MailAI: AI-Powered Mail Manager - Chromium
 MailAI: AI-Powered Mail < mailai.intueri.ai/rmail/emails/28/

Mail AI Home Generate Analyze Fetch Logout Withdrawal README

Email Details

AWS re:Invent starts this week: Livestream for free

From: aws-marketing-email-replies@amazon.com
 To: admin@intueri.ai
 Date: Nov. 27, 2023, 9:17 p.m.



AWS re:Invent starts this week!
[Register for free to livestream the most-anticipated AWS announcements.](#)
 Hear news, product updates, and inspiring customer stories in real time. You can also watch keynotes, Innovation Talks, and breakout sessions on demand, to learn at your own pace.

Email Detail

You can Analyze your email.

MailAI: AI-Powered Mail Manager - Chromium
 MailAI: AI-Powered Mail < mailai.intueri.ai/rmail/emails/128/

Mail AI Home Generate Analyze Fetch Logout Withdrawal README

Email Details

From: yosep.kim@intueri.ai
 To: yosep.kim@intueri.ai
 Date: Dec. 6, 2023, 6:08 a.m.

[Translation \(Google\)](#) [Translation \(OpenAI\)](#)
[Summary \(OpenAI\)](#) [Summary \(BERT\)](#)
[Keywords \(KeyBERT\)](#) [Original Mail](#)

© 2023 MailAI: GitHub

Mail AI

Email Details

From: yosep.kim@intueri.ai
 To: yosep.kim@intueri.ai
 Date: Dec. 6, 2023, 6:08 a.m.

[Translation \(Google\)](#) [Translation \(OpenAI\)](#)
[Summary \(OpenAI\)](#) [Summary \(BERT\)](#)
[Keywords \(KeyBERT\)](#) [Original Mail](#)

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Implementation

Analysis

MailAI: AI-Powered Mail Manager - Chromium

MailAI: AI-Powered Mail | mailai.intueri.ai/rmail/emails/28/

Home Generate Analyze Fetch Logout Withdrawal README

Email Details

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From: aws-marketing-email-replies@amazon.com
To: admin@intueri.ai
Date: Nov. 27, 2023, 9:17 p.m.

[Extracted Keywords]

Keyword	Score
aws	0.60
cloud	0.49
ai	0.48
industries	0.42
computing	0.42

[Original Mail]

aws:Invent NOV. 27 - DEC. 1, 2023 | LAS VEGAS, NV

Email Keyword
ALL MPNET BASE V2

MailAI: AI-Powered Mail Manager - Chromium

MailAI: AI-Powered Mail | mailai.intueri.ai/rmail/emails/28/

Home Generate Analyze Fetch Logout Withdrawal README

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computing	0.42

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Please wait...

Translation (Google) Translation (OpenAI)
Summary (OpenAI) Summary (BERT)
Keywords (KeyBERT) Original Mail

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Implementation

Analysis

MailAI: AI-Powered Mail Manager - Chromium

mail AI: AI-Powered Mail | mailai.intueri.ai/rmail/emails/28/

Email Details

AWS re:Invent starts this week: Livestream for free

From: aws-marketing-email-replies@amazon.com
To: admin@intueri.ai
Date: Nov. 27, 2023, 9:17 p.m.

[Summarized Mail (BERT)]

Summary

AWS re:Invent starts this week. Hear news, product updates, and inspiring customer stories in real time. You can also watch keynotes, Innovation Talks, and breakout sessions on demand.

[Original Mail]

Email Summary

BART LARGE CNN

MailAI: AI-Powered Mail Manager - Chromium

mailai.intueri.ai/rmail/emails/28/

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To: admin@intueri.ai
Date: Nov. 27, 2023, 9:17 p.m.

[Summarized Mail (BERT)]

Summary

AWS re:Invent starts this week. Hear news, product updates, and inspiring customer stories in real time. You can also watch keynotes, Innovation Talks, and breakout sessions on demand.

[Original Mail]

Implementation

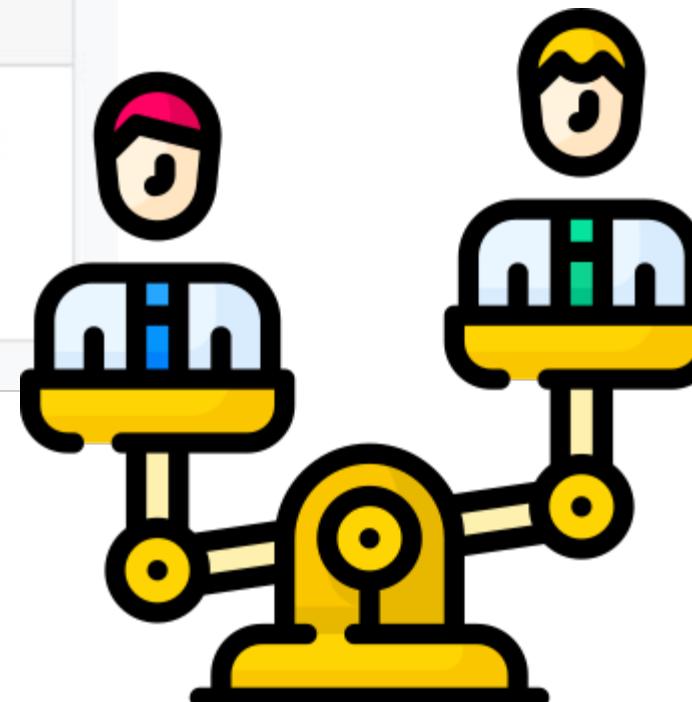
Analysis

BART LARGE CNN

[Summarized Mail (BERT)]

Summary

Elon Musk is raising \$1 billion for his chatbot startup xAI. xAI has already raised \$135 million, and could raise up to another \$865 million.



You can compare.

OPENAI REST API

[Summarized Mail (OpenAI)]

- Elon Musk has founded xAI, an alternative to OpenAI, and has raised \$135 million with the potential to raise another \$865 million.
- xAI has launched Grok, its alternative to OpenAI's ChatGPT.
- Competitors such as Google's Bard and Anthropic's Claude have tried to rival OpenAI's ChatGPT and GPT-4, but none have surpassed its capabilities.
- Mistral, another OpenAI competitor, is reportedly close to raising almost \$500 million with a \$2 billion valuation in a funding round involving Salesforce and Nvidia.

Implementation

mailai.intueri.ai/rmail/emails/28/

Generate Analyze Fetch Logout Withdrawal README

Email Details

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Livestream for free**

From: aws-marketing-email-replies@amazon.com
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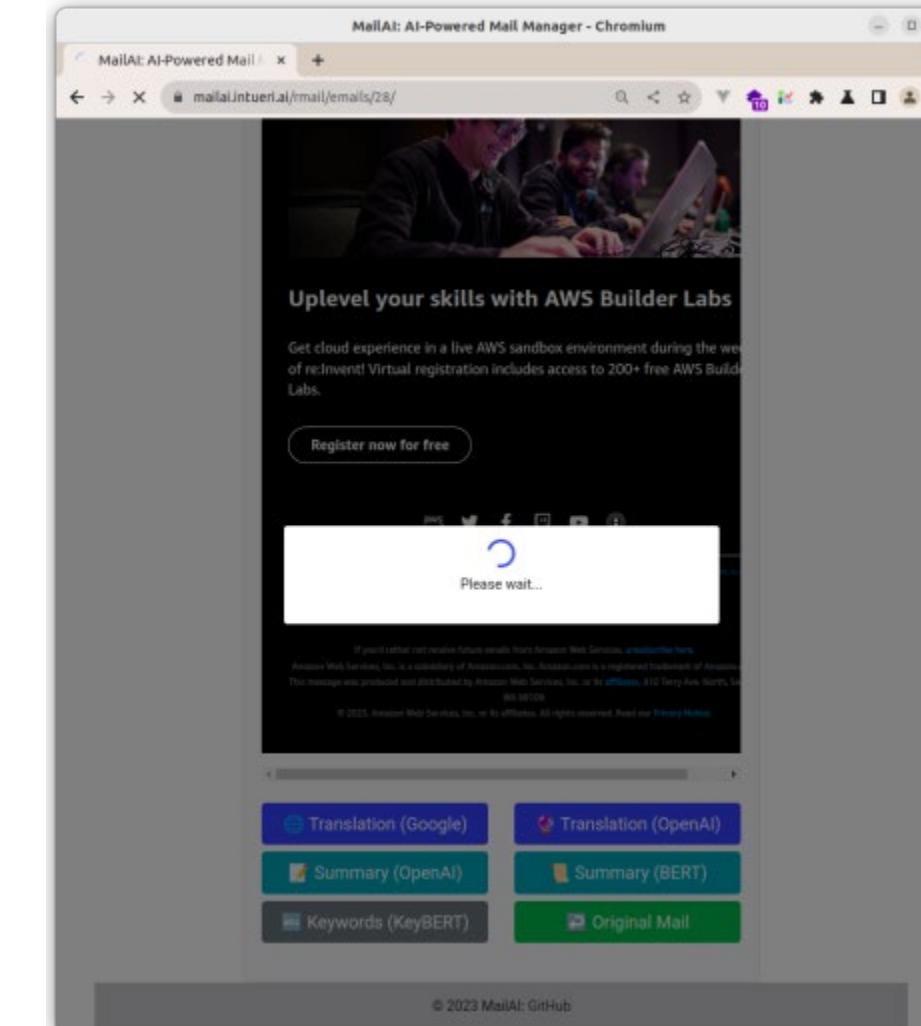
[Translated Mail (Google)]

AWS Keynotes & Innovation Talks Streaming Streaming, Live, Online 및 무료 AWS Re : 발명은 이번 주에 시작됩니다! 가장 기대되는 AWS 발표를 라이브 스트리밍으로 무료로 등록하십시오 .뉴스, 제품 업데이트 및 영감을주는 고객 스토리를 실시간으로 듣습니다. 당신은 또한 자신의 속도로 배우기 위해 기조 연설, 혁신 대화 및 요청에 대한 탈주 세션을 볼 수 있습니다. 무료로 등록하십시오 기조 연설 Adam Selipsky CEO, AWS 11 월 28 일 화요일 |오전 8시 - 오전 10시 30 분 (PST) Adam Selipsky에 가입하여 데이터, 인프라 및 머신 러닝의 혁신을 통해 미래 지향적인 건축업자가 AWS를 통해 산업과 미래를 어떻게 변화시키고 있는지 조사합니다. 더 알아보기 피터 데 산티스 AWS 유튜리티 컴퓨팅 수석 부사장 11 월 27 일 월요일 |오후 7시 30 분 - 오후 9시 (PST) Peter Desantis는 AWS 서비스를 제공하는 엔지니어링과 혁신의 독특한 접근 방식과 문화가 최첨단 솔루션을 만드는 데 어떻게 도움이되는지 논의하면서 참여하십시오. 더 알아보기 Swami Sivasubramanian 박사 부사장, 데이터 및 AI, AWS 11 월 29 일 수요일 |오전 8시 30 분 - 오전 10시 30 분 (PST) Dr. Swami Sivasubramanian에 가입하여 회사 데이터를 사용하여 조직을 위한 차별화된 생성 AI 응용 프로그램을 구축하는 방법을 알아보십시오. 더 알아보기 Ruba Borno 박사 VP, AWS 전세계 채널 및 제휴사 11 월 29 일 수요일 |오후 3시 - 오후 4 시 30 분 (PST) Ruba Borno 박사와 함께 AWS 파트너 기조 연설을 위해 전략적 파트너십에 대해 배우고 AWS 및 AWS 파트너가 고객이 중요한 비즈니스 문제를 해결

Analysis

Mail Translation

Using Google Translation



Email Details

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From: aws-marketing-email-replies@amazon.com
To: admin@intueri.ai
Date: Nov. 27, 2023, 9:17 p.m.

[Translated Mail (Google)]

AWS Keynotes & Innovation Talks Streaming Streaming, Live, Online 및 무료 AWS Re : 발명은 이번 주에 시작됩니다! 가장 기대되는 AWS 발표를 라이브 스트리밍으로 무료로 등록하십시오 .뉴스, 제품 업데이트 및 영감을주는 고객 스토리를 실시간으로 듣습니다. 당신은 또한 자신의 속도로 배우기 위해 기조 연설, 혁신 대화 및 요청에 대한 탈주 세션을 볼 수 있습니다. 무료로 등록하십시오 기조 연설 Adam Selipsky CEO, AWS 11 월 28 일 화요일 |오전 8시 - 오전 10시 30 분 (PST) Adam Selipsky에 가입하여 데이터, 인프라 및 머신 러닝의 혁신을 통해 미래 지향적인 건축업자가 AWS를 통해 산업과 미래를 어떻게 변화시키고 있는지 조

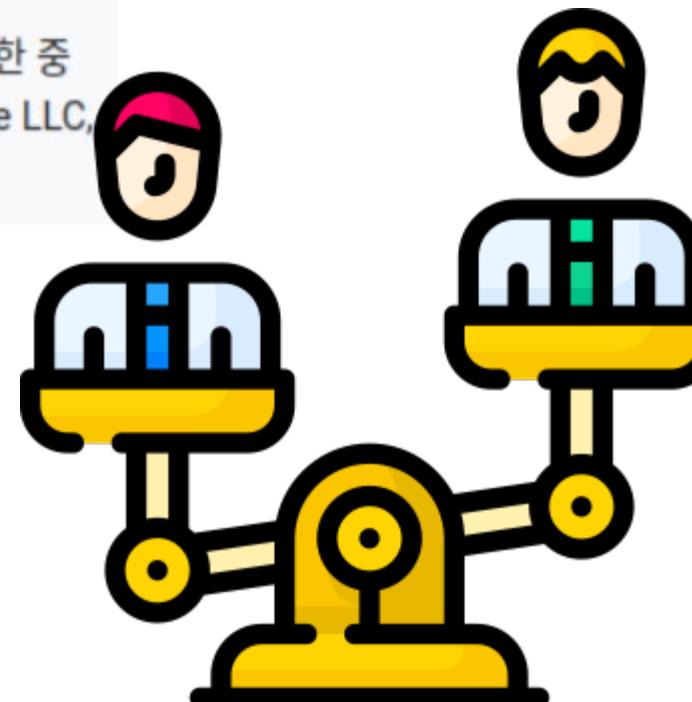
Implementation

Analysis

Google Translator

[Translated Mail (Google)]

계정에 로그인하기 위해 생성 된 앱 비밀번호 yosep.kim@intueri.ai 테스트를 위해 이 암호를 생성하지 않은 경우 누군가가 귀하의 계정을 사용하고 있을 수 있습니다. 지금 계정을 확인하고 보호하십시오. 활동 확인 보안 활동을 볼 수도 있습니다
<https://myaccount.google.com/notifications> Google 계정 및 서비스에 대한 중요한 변경 사항에 대해 알려주기 위해 이메일을 받았습니다. © 2023 Google LLC, 1600 원형 극장 파크 웨이, Mountain View, CA 94043, 미국



You can compare.

Open AI

[Translated Mail (OpenAI)]

생성된 앱 비밀번호로 계정에 로그인하십시오
yosep.kim@intueri.ai

이 비밀번호를 테스트를 위해 생성하지 않았다면, 누군가가 귀하의 계정을 사용하고 있을 수 있습니다. 지금 확인하고 계정을 안전하게 유지하십시오.

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Live Demo

Mail AI

<https://mailai.intueri.ai>



Mail AI





ML/DL

1. Summary

seq2sec

→ facebook/bart-large-cnn

2. Keyword Extraction

sentence transformer

→ all-mnet-base-v2



[facebook/bart-large-cnn](#)

Hugging Face Search models, datasets, users...

facebook/bart-large-cnn like 702

Summarization Transformers PyTorch TensorFlow JAX Rust

Safetensors cnn_dailymail English bart text2text-generation Eval Results

Inference Endpoints arxiv:1910.13461 License: mit

Train Deploy Use in Transformers

Model card Files Community 63 Edit model card

BART (large-sized model), fine-tuned on CNN Daily Mail

BART model pre-trained on English language, and fine-tuned on [CNN Daily Mail](#). It was introduced in the paper [BART: Denoising Sequence-to-Sequence Pre-training for Natural Language Generation, Translation, and Comprehension](#) by Lewis et al. and first released in [this repository (<https://github.com/pytorch/fairseq/tree/master/examples/bart>)].

Disclaimer: The team releasing BART did not write a model card for this model so this model card has

Downloads last month 6,007,244

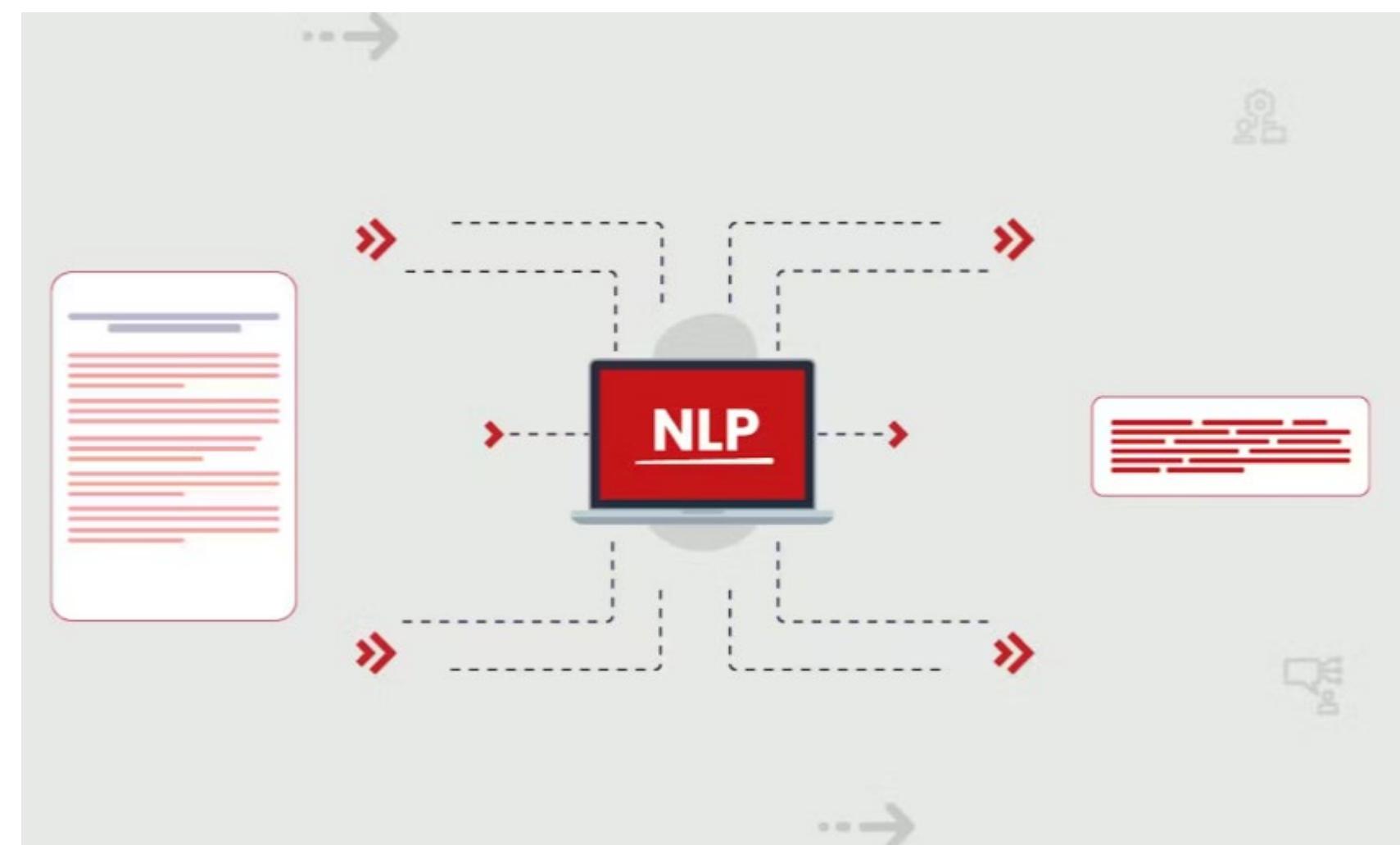
Safetensors Model size 406M params Tensor type F32

Inference API Examples

Your sentence here... Compute

Summary bart-large-cnn

Mail AI Summary Model



Aa Texts

CNN/Daily Mail

Introduced by Nallapati et al. in [Abstractive Text Summarization Using Sequence-to-Sequence RNNs and Beyond](#)

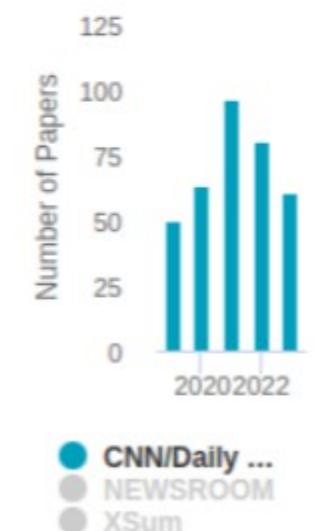
CNN/Daily Mail is a dataset for text summarization. Human generated abstractive summary bullets were generated from news stories in CNN and Daily Mail websites as questions (with one of the entities hidden), and stories as the corresponding passages from which the system is expected to answer the fill-in-the-blank question. The authors released the scripts that crawl, extract and generate pairs of passages and questions from these websites.

In all, the corpus has 286,817 training pairs, 13,368 validation pairs and 11,487 test pairs, as defined by their scripts. The source documents in the training set have 766 words spanning 29.74 sentences on an average while the summaries consist of 53 words and 3.72 sentences.

Source: [Abstractive Text Summarization using Sequence-to-sequence RNNs and Beyond](#)

[Homepage](#)
Edit


Usage ▾



Dataset CNN Daily Mail

Total Data Pairs

286,817 (training), 13,368 (validation), 11,487 (test).

Average Source Document

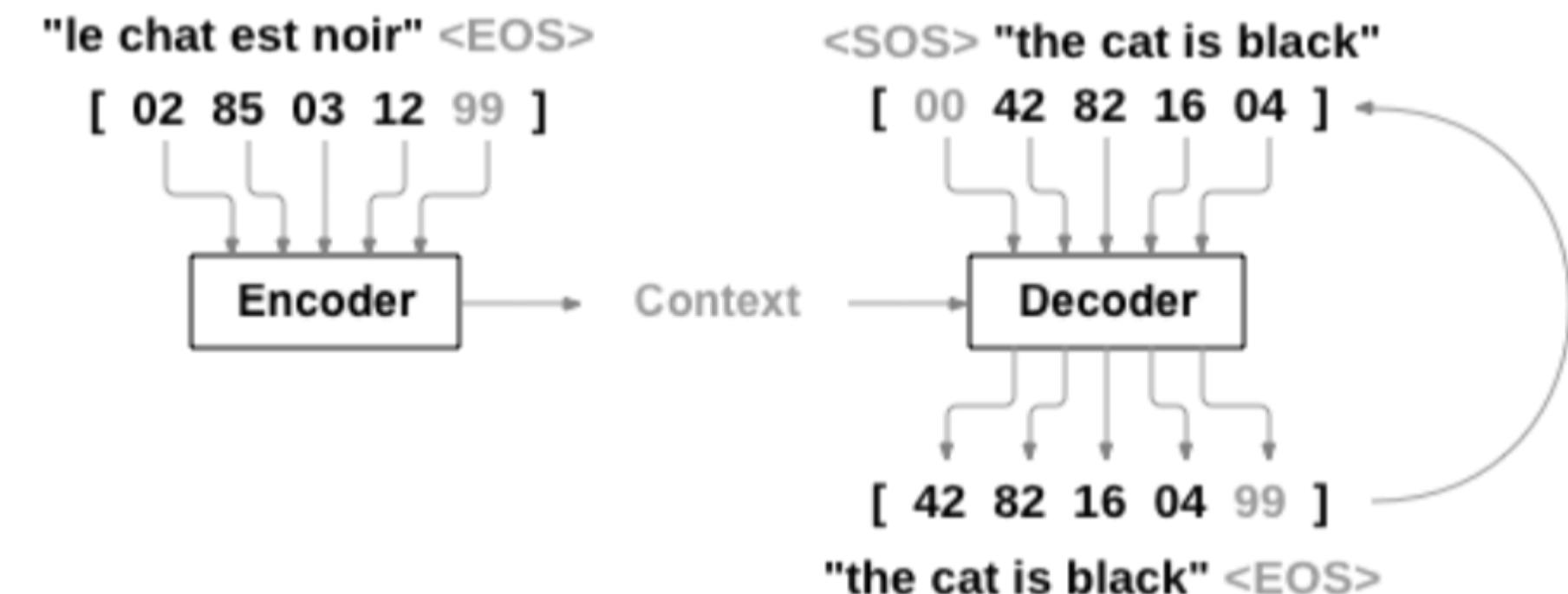
766 words, 29.74 sentences.

Average Summary

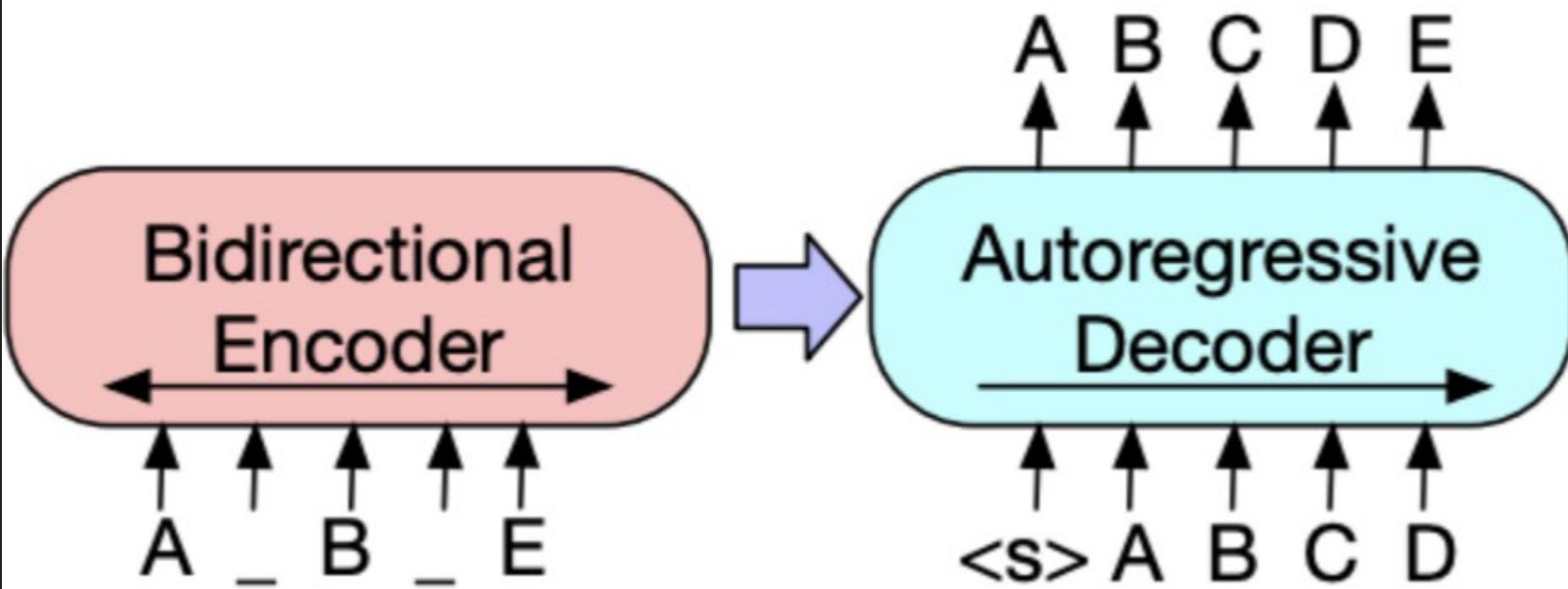
53 words, 3.72 sentences.

seq2seq

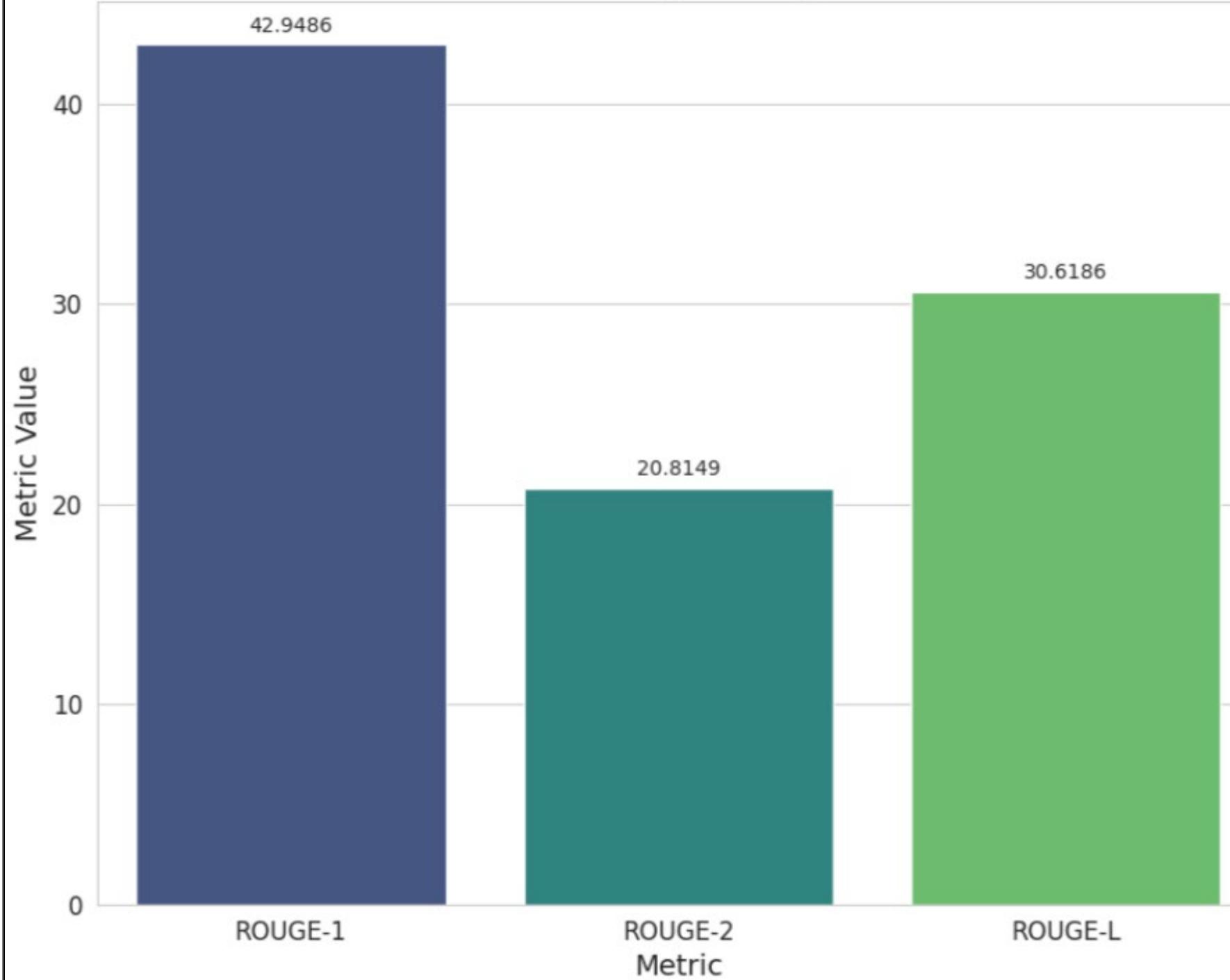
transformer encoder-encoder (seq2seq) model



- bidirectional (BERT-like) encoder
- autoregressive (GPT-like) decoder.

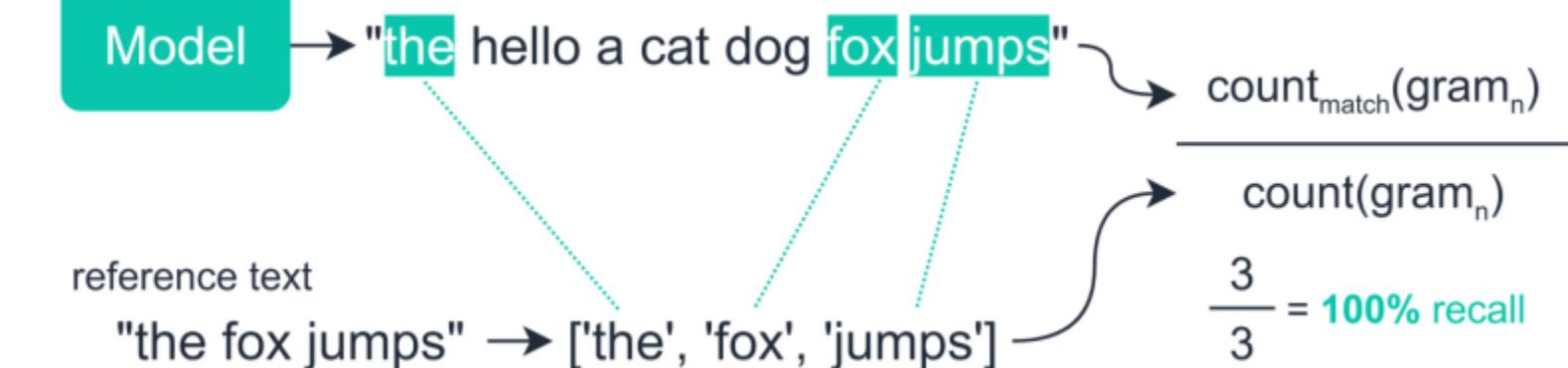


Performance Metrics of facebook/bart-large-cnn for Summarization



Evaluation Metrics

Rouge Recall Precision (ROUGE-N)



Rouge L: LCS(longest common sequence) between model output

"the hello a cat dog fox jumps"

['the', 'fox', 'jumps']

1.0 recall
0.43 precision

$$2 * \frac{0.43 * 1.0}{0.43 + 1.0} = 0.6$$

60% f1 score

ML/DL

all-mpnet-base-v2

sentence-transformers/all-mpnet-base-v2 - Hugging Face - Chromium

huggingface.co/sentence-transformers/all-mpnet-base-v2

Hugging Face

Models Datasets Spaces Docs Solutions Pricing Log In Sign Up

sentence-transformers all-mpnet-base-v2 like 501

Sentence Similarity Sentence Transformers PyTorch s2orc flax-sentence-embeddings/stackexchange_xml ms_marco
gooaq yahoo_answers_topics code_search_net search_qa eli5 snli multi_nli wikihow natural_questions
trivia_qa embedding-data/sentence-compression embedding-data/flickr30k-captions embedding-data/altlex
embedding-data/simple-wiki embedding-data/QQP embedding-data/SPECTER embedding-data/PAQ_pairs
embedding-data/WikiAnswers English mpnet feature-extraction Inference Endpoints arxiv:1904.06472 arxiv:2102.07033
arxiv:2104.08727 arxiv:1704.05179 arxiv:1810.09305 License: apache-2.0

Model card Files Community 15

Edit model card Deploy Use in sentence-transformers

Downloads last month 8,786,939

Inference API Examples

Sentence Similarity Source Sentence That is a happy person
Sentences to compare to That is a happy dog
That is a very happy person
Today is a sunny day Add Sentence Compute

This is a [sentence-transformers](#) model: It maps sentences & paragraphs to a 768 dimensional dense vector space and can be used for tasks like clustering or semantic search.

Usage (Sentence-Transformers)

Using this model becomes easy when you have [sentence-transformers](#) installed:

```
pip install -U sentence-transformers
```

Then you can use the model like this:

```
from sentence_transformers import SentenceTransformer
sentences = ["This is an example sentence", "Each sentence is a sequence of words"]
```

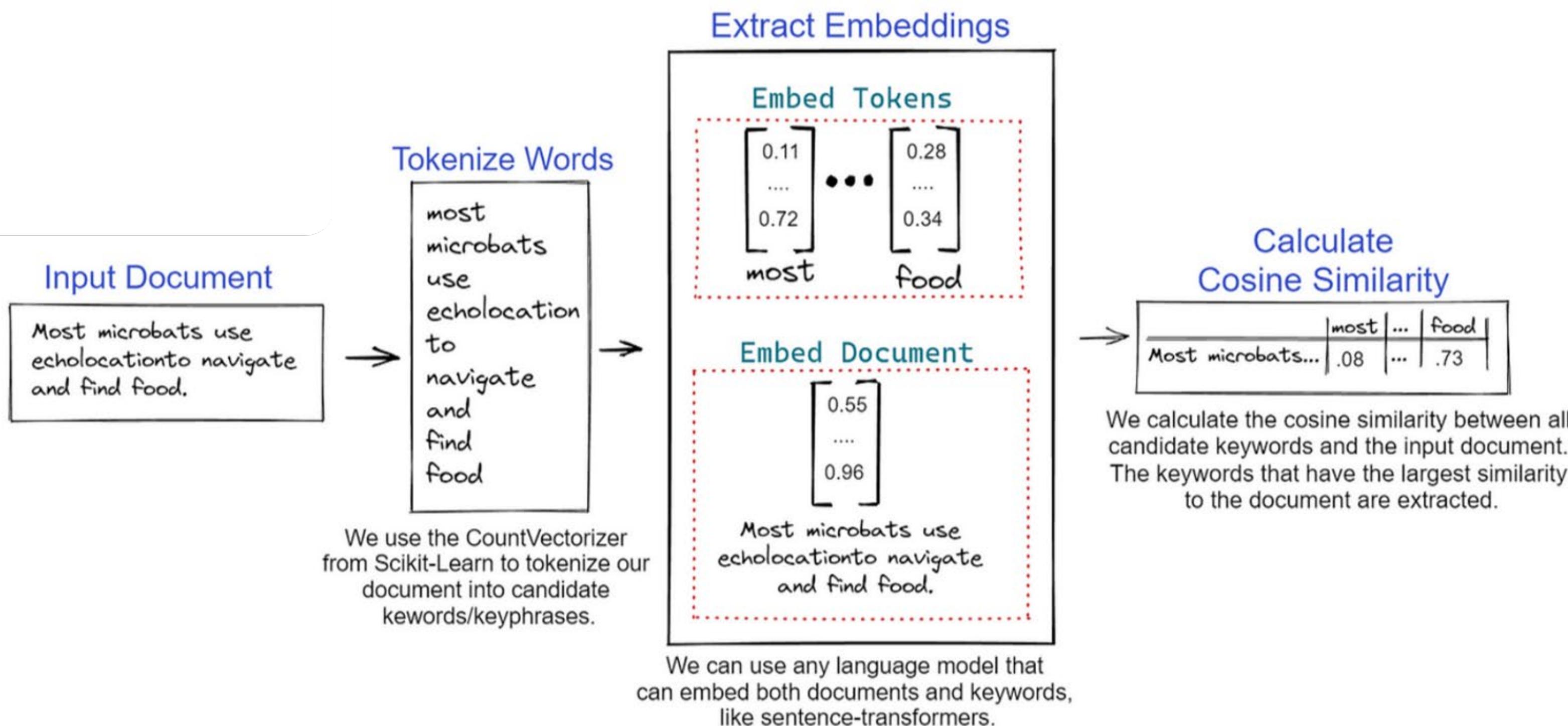
Keyword

all-mpnet-base-v2

Mail AI Summary Model

Dataset:
1,170,060,424 tuples

Avg. Performance: 63.30 (best)		
https://www.sbert.net/docs/pretrained_models.html		Model
Performance	Performance	Model
Sentence Embeddings (14 Datasets)	Semantic Search (6 Datasets)	Avg. Performance
69.57	57.02	63.30
62.00	57.02	2800
420 MB		420 MB





Discussion

1. Challenges

2. Limitations

3. Q & A



Discussion

Challenges



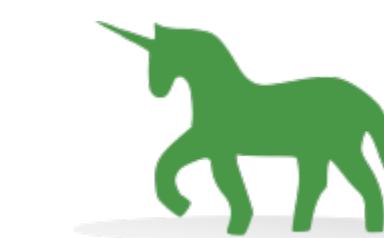
1. Out of Memory

For deploying NLP Model



2. Django Async

How to use both
Gunicorn & Uvicorn?



3. Image Data

Using Base64,
We completely implemented it.



4. Security

Encryption
Automatic TLS



Discussion

Limits



1. Mail Body Length

$\text{len}(\text{body}:\text{str}):\text{int} < 2048$

2. BERT Token Limit

of TOKEN < 1024

3. OpenAI Response Time

at least 20s --> OpenAI's Limit

4. Browser Version

Your browser must support HTML5.



GITHUB

Mail AI

<https://github.com/skkumail>

<https://mailai.intueri.ai>

SKKU 

THNK YOU
FOR ATTENTION:)

Capstone Design Project
December 8, 2023